ARGONNE NATIONAL LABORATORY

Senior Computational Science and Engineering Opportunities

Petascale computers are revolutionizing our ability to address complex problems in science and engineering. To exploit the growing numbers of opportunities, Argonne's Leadership Computing Initiative is seeking outstanding individuals to build and expand successful computational science and engineering groups at Argonne.

Who is eligible?

The typical candidates will have a Ph.D. In a relevant field (listed below) and 15 years of experience, or the equivalent.

Image (generated by Tom Peterka, Rob Ross of Argonne National Laboratory and Hongfeng Yu, Kwan-Liu Ma of the University of California at Davis) shows the angular momentum at time step 1492 of a simulation of a core-collapse supernova. Dataset courtesy of John Blondin of North Carolina State University and Anthony Mezzacappa of Oak Ridge National Laboratory. This research used resources of the Argonne Leadership Computing Facility at Argonne National Laboratory, which is supported by the Office of Science of the U.S. Department of Energy under contract DE-AC02-06CH11357.

What are the focus areas?

The focus areas of the new initiative span a wide range of disciplines at the leading edge of basic and applied research:

- including materials science (e.g., materials discovery and design; catalyst design; nanoscience)
- energy technologies (e.g., energy storage, transportation, solar, and nuclear)
- biological systems (e.g., genomics and protein science)
- climate change (e.g., high-resolution models, ecosystems, energy, economics)
- fundamental science and engineering (e.g., nuclear physics, high energy physics, chemistry, process engineering)
- X-ray science
- accelerator science and technology

How does one apply?

Interested candidates should apply online <http://www.anl.gov/jobsearch/> for the position of **Sr. Computational Scientist #314962** and submit the following for full consideration:

- Curriculum vitae
- Research accomplishments (up to 5 pages)
- List of publications, major software developed, and significant presentations
- Brief statement of research interests

The home research division will be determined based on the candidate's discipline and areas of interest. Joint appointments with universities may also be considered. For technical questions, please contact Dr. Raymond Bair at rbair@anl.gov.

How does computational science fit in?

The selected candidates will lead and conduct basic or applied research in one of the focus areas, using innovative computational methods on leadership-class scalable parallel computers. They will develop multidisciplinary initiatives, drawing on the wide array of expertise of Argonne researchers and colleagues in other labs, universities, and industry.

What high-performance facilities are available for research?

Argonne operates a full spectrum of high- performance computing resources that are upgraded regularly. At the top is the Argonne Leadership Computing Facility, which currently operates a 557-teraflops IBM Blue Gene/P system for production scientific and engineering computing and another 14-teraflops Blue Gene/P system for software development, software testing, and tool and application porting. Argonne also provides a 26- teraflops computing cluster to facilitate mid-range computing in all of the scientific programs of the laboratory. Many divisions and groups operate clusters as well. Complementing these resources are Argonne's high- performance computing tools, libraries, and solvers, which enable researchers to address complex problems on advanced computing platforms. Moreover, Argonne has just completed a new Theory and Computing Sciences (TCS) building designed to house the laboratory's state-of-the-art computational resources and provide scientists a venue for interdisciplinary research.